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ABSTRACT

The purpose of this study was to compare the career maturity, self concept, and academic achievement of female students enrolled in intensive business training (IBT), cooperative vocational office training (CVOT), and regular business education programs. A sample of 240 students, equalized into three groups on the basis of IQ scores, were given the Career Maturity Inventory-Attitude Scale and the Tennessee Self Concept Scale. Overall grade averages were taken from the students' cumulative records (Grades 9-12). One-way analysis of variance was employed to analyze the data, and the Duncan's Multiple Range Test was used to determine the location of significant differences. All variables were correlated. When compared on the variable of career maturity, the CVOT students exhibited a higher mean than the regular students. When compared on the variable of overall self-concept, the CVOT students were significantly higher than the IBT students. Regular students demonstrated significantly higher grade averages than the IBT students, but the regular students' averages were not significantly different from the CVOT students' averages. When the total group was analyzed on the basis of grade level, it was found that grade 12 scored significantly higher than grade 11 students in career maturity and self-concept. High correlations were observed when all the variables from all the groups were combined. (Author/BM)

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A COMPARISON OF THE CAREER MATURITY, SELF CONCEPT AND ACADEMIC ACHIEVEMENT OF FEMALE COOPERATIVE VOCATIONAL OFFICE TRAINING STUDENTS, INTENSIVE BUSINESS TRAINING STUDENTS, AND REGULAR BUSINESS EDUCATION STUDENTS IN SELECTED HIGH SCHOOLS IN MISSISSIPPI

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ABSTRACT

The purpose of this study was to compare the career maturity, self concept and academic achievement of female students enrolled in Intensive Business Training, Cooperative Vocational Office Training, and Regular Business Education programs.

The sample consisted of 240 subjects, equalized into three groups of 80 on the basis of IQ scores taken from cumulative records. Utilizing a posttest design, the variable of career maturity was measured by the Career Maturity Inventory - Attitude Scale, self concept was measured by the Tennessee Self Concept Scale, and overall grade averages were taken from students' cumulative records (Grades 9-12).

One-way analysis of variance was employed to analyze the data, and the Duncan's Multiple Range Test was used to determine the location of significant differences. Further analysis beyond the three major hypotheses was undertaken, with the total group of subjects divided by grade level, and subjected to one-way analysis of variance. All variables were correlated, as well. The .05 level of significance was used.

When compared on the variable of career maturity, the only significant difference observed was between the CVOT students and the Regular students, with the CVOT students having higher means.

When compared on the variable of overall self concept, the CVOT students were significantly higher than the IBT students.

Regular students demonstrated significantly higher grade averages than the IBT students, but were not significantly different from the CVOT students.

When the total group of students was analyzed on the basis of grade level, it was found that the Grade 12 students scored significantly higher than Grade 11 students on the variable of career maturity and self concept.

High correlations were observed when all the variables from all the groups were combined.

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CHAPTER I

NATURE AND SCOPE OF STUDY

Introduction and Rationale

Business educators have long recognized the need for teaching more than isolated specialized skills in the preparation of students for office occupations. With the Vocational Act of 1963 and the Vocational Amendments of 1968 came a challenge to educators to provide practical work experiences in their vocational education programs. In answer to this challenge, a new dimension has been added to the purposes of office education, that of providing learning experiences in laboratory situations, either in the school or on the job. This new dimension does not detract from the traditional methods of teaching specific skills and knowledges in isolated courses within the curriculum of the school.

An emerging concept which has been brought about through the implementation of the vocational legislation, of which office occupations are only a part, is that of vocational competence. Jones (1972) defined vocational competency as the composite of several factors: the student's capacity for performing the duties of an occupation, the adequacy of his general education background as it relates to the occupation, the appropriateness of his attitudes and other personal characteristics as they relate to the occupation, the adequacy of his background of business information, and the adequacy of his achievement of the specialized knowledges and skills required in the occupation.

She further stated that learning outcomes, or performance objectives, of a program of vocational instruction are derived from the performances, knowledges, attitudes and personal characteristics required for success in the occupation for which the instruction is being provided, and that these performance objectives fall into four categories: cognitive, affective, psychomotor and action pattern. The cognitive domain relates to recalling, knowing, comprehending and synthesizing. The affective domain deals with perceiving or feeling, with liking or disliking, with the attitude to approach or to withdraw in an unknown situation. The psychomotor domain is concerned with skill development, with overt responses to stimuli, with responses involving physical manipulations. The action pattern domain relates to the integration of the other three domains in complex but realistic problem-solving situations. (Jones, 1972)

This study was primarily concerned with the affective and action pattern domains of vocational competency, and to some extent with the cognitive domain as it relates to the others.

In the state of Mississippi three programs are commonly utilized to train predominantly female high school students for future employment in office occupations. The Cooperative Vocational Office Training program provides a cooperative work experience, with the student receiving one hour of related class instruction at school in the morning along with regular academic courses, and working approximately three hours in the afternoon on a supervised job. The Intensive Business Training program operates on a block-time schedule, usually with two or three hour blocks, and a simulation process may be utilized to prepare the student in a wide variety of office skills and aptitudes. The third program allows

the student to enroll on an elective basis in several Regular Business Education courses, such as Typewriting, Shorthand, Bookkeeping, Office Machines, Secretarial or Clerical Office Practice and others.

In each of these instances, the teacher-coordinator functions on several levels, which are for the most part outside the realm of the regular classroom teacher. One of these levels is vocational counseling, which Super and Crites (1962) defined as the process of helping the individual to ascertain, accept, understand and apply the relevant facts about himself to the pertinent facts about the occupational world which are ascertained through incidental and planned exploratory activities. Within this framework, this study sought to determine the extent to which the three programs outlined above prepare the student in the areas of career maturity, self concept and academic achievement. Various pieces of research have indicated that a relationship exists between the variables of career maturity, self concept and academic achievement in high school and college students.

The concept of career maturity must be analyzed within a framework of career development theory. According to Crites (1973), contemporary career development theory states that vocational behavior matures for most individuals as they progress from late childhood through adolescence to early adulthood. Early theory generated by Ginzberg, Ginsburg, Axelrad and Herma (1951) indicates that choice of an occupation is a process, not simply a one-time event, which extends from approximately age ten to age twenty-one and which progresses through differentiable periods of deliberation culminating in a more or less satisfactory and satisfying compromise between personal needs and occupational realities. Super

(1953) elaborated on this theory of career development and introduced the concept of career maturity to denote the place reached on the continuum of vocational development from exploration to decline. He hypothesized that there are five dimensions along which vocational maturity proceeds: orientation to vocational choice, information and planning, consistency of vocational choice, crystallization of traits, and wisdom of vocational preferences. From these dimensions Crites (1973) developed a model of career maturity in adolescence which uses career development as the general factor with group factors of consistency of career choices, realism of career choices, career choice competencies, and career choice attitudes. This study utilized the Attitude Scale of the Career Maturity Inventory developed by Crites, which consists of fifty attitudinal statements, classified into five dimensions: involvement in the choice process, orientation toward work, independence in decision-making, preference for career choice factors, and conceptions of the choice process.

A central concept in career development theory which had its origin in Parsons' (1909) model of vocational counseling is that in choosing an occupation one is, in effect, choosing a means of implementing a self concept. (Super, 1951) By self concept is meant the individual's perceptions of his attitudes, interests and personality characteristics. According to Super's theory, as interpreted by Crites (1964), these perceptions become clearer and more accurate, and more highly integrated near the end of adolescence, so that the expectation is that more vocationally mature individuals will have thought more about their assets and liabilities and will have greater self-knowledge. Thus, it would

seem that to know oneself is of supreme importance to mature career development.

Pietrofesa (1969) defined self concept as ". . .a composite of numerous self-percepts, an hypothetical construct, encompassing all of the values, attitudes, and beliefs toward one's self in relation to the environment." (p. 37) He stated further that the school is fertile ground for action programs improving self concept and eventual career development and that the teacher can play an active role in the facilitation of an adequate self concept in students. He justified these statements on the basis of available thought and research in the field. He advocates that the self concept of an individual develops out of interaction with the environment, parents, peers, and significant adults. The self concept influences the child's perception of the school, and correspondingly, his academic achievement. Lowther (1963) found that the youngster with high self-esteem has better school success and achievement experiences than the youngster with low self-esteem. The self concept is an important factor in the child's personal-social adjustment within the school. It is an important factor in career development. A person has to be able to see himself as a professional, technical or skilled worker and in addition, a person of worth, if he is going to become one. Patterson (1957) and Chambers (1965) reported that individuals with negative self concepts make inadequate vocational choices. Certainly, vocational self concepts are significantly related to achievement in high school. (O'Hara, 1966) Self concept, since it affects personal-social and academic growth within the school, is a concern of the professional educator, and can be changed through encounter with meaningful school experiences. (Pietrofesa, 1969)

Resnick, Fauble and Osipow (1970) found that a relationship exists between certainty of vocational choice and the level of an individual's self esteem in both male and female students.

Factors most frequently mentioned by Harris (1960) as important for academic success were ambition, emotional security, a sense of responsibility, cooperativeness, and seriousness. According to Caplin (1969) the significance of self concept has been stressed more recently with substantial evidence indicating a relationship between self concept and academic achievement.

Studies by Bledsoe (1968), Wilkinson (1972), Sanders (1967), and Neswick (1971) all indicate that there is no significant difference between students participating in the regular school academic program and those participating in either the block-time program or the cooperative program in intelligence, percentile rank, scholastic rank and grade point averages. In a study entitled "Adjustment, Educational Achievement, and Vocational Maturity as Dimensions of Development in Adolescence" by Crites and Semler (1967), adjustment appeared to be a suprafactor on which both educational achievement and vocational maturity had loadings, the relationship between them being a function of this communality. The better adjusted adolescent, as perceived by his counselors and teachers, is more educationally advanced as well as more vocationally mature.

The importance of career maturity in high school seniors becomes readily apparent when exit goals are examined. The necessity of career maturity is more than obvious when considering those students who will enter into full-time employment upon graduation, but there is another large group of students who must also be considered.

The importance of career maturity in those who choose to go to college was demonstrated in a study of college freshmen conducted at Ohio State University by Walsh and Osipow (1973). They found that males and females who reported already-selected college majors which were congruent with their individual primary personality type (as determined by the Vocational Preference Inventory), were more apt to exhibit specificity in occupational planning and implementation of preferences, to report more knowledge and application of decision-making skills and awareness of occupational information, to be more able to cope with the vocational and educational world in an organized way, to have more crystallized educational objectives, and to have a more stable college major choice than the students which were classified as incongruent or undecided on the basis of college major choice.

In view of all the previous statements, justification of the need to examine this particular dimension of vocational education becomes a matter of ease. The mere possession of a skill or a set of skills is insufficient, both for the college-bound student and the employment-bound student.

Treatment variables used in this study were: Program I: Intensive Business Training (IBT); Program II: Cooperative Vocational Office Training (CVOT); and Program III: Regular Business Education (Regular). The effect of these three treatment variables on the dependent variables of career maturity, self concept and academic achievement, as measured by Crite's Career Maturity Inventory - Attitude Scale, the Tennessee Self Concept Scale, and overall grade averages, was examined to determine the status of the students in these areas.

Statement of the Problem

The problem examined in this study was to compare female students who are trained in Intensive Business Training, Cooperative Vocational Office Training and Regular Business Education programs with reference to the criteria of career maturity, self concept and academic achievement.

Hypotheses

The following null hypotheses were tested in this study:

(1) There will be no significant difference among the means for the three groups on the variable of career maturity, as measured by the Career Maturity Inv ntory - Attitude Scale.

(2) There will be no significant difference among the means for the three groups in overall self concept as measured by the Tennessee Self Concept Scale.

(3) There will be no significant difference among the three groups when mean overall grade averages as reported in cumulative records are compared.

Assumptions of the Study

(1) The students included in the sample were typical of the students normally enrolled in the Intensive Business Training, the Cooperative Vocational Office Training and the Regular Business Education programs in Mississippi.

(2) Student responses on the Career Maturity Inventory - Attitude Scale and the Tennessee Self Concept Scale were valid and accurate.

Limitations of the Study

(1) Students in the sample were selected from high schools representing all geographic areas of the state of Mississippi.

(2) Students in the sample were evaluated on the basis of scores on the Career Maturity Inventory - Attitude Scale, the Tennessee Self Concept Scale, and mean overall grade averages taken from cumulative records.

Delimitations of the Study

(1) Only female students were included in the sample, since very few males enroll in the programs, and inclusion of males would have contaminated the study.

(2) Only schools which offered all three programs being examined were included in the study.

(3) Only juniors and seniors were included in the sample.

Definition of Terms

Operational definitions for the terms in this study are as follows:

(1) Cooperative Vocational Office Training Program. This program is for juniors and seniors who are preparing for full-time employment in office occupations. Training is given through a related instruction period usually called "Vocational Office Training", and through an on-the-job experience in local offices during the school day. Two major credits are earned in this program. Prerequisites include Typewriting I, and in addition, the student must have taken or be concurrently enrolled in either Shorthand or Bookkeeping, and possess above-average grades in Business courses and average overall grades.

(2) Intensive Business Training Program. In this program, juniors and seniors who plan to seek full-time employment in office occupations are trained in a two to three hour block-of-time class, where instruction may take the form of simulation. Two major credits are earned through participation in this program. Entrance into the IBT program is prefaced by the student's having completed Typewriting I, and either have completed or be concurrently enrolled in either Shorthand or Bookkeeping. Students must have above-average grades in Business courses and average grades in all other subjects.

(3) Regular Business Education Program. Students who participate in this program take two to three courses offered through the Business Education Department of the high school. These courses include Typewriting I, Shorthand, Bookkeeping, General Business, Business Law, Office Practice, Consumer Economics or Office Machines or a combination of these. One credit (and in some cases one-half credit) is earned in each of these courses, and students enroll on an elective basis.

(4) Career Maturity. This concept can be described as having five dimensions: involvement in the choice process, orientation toward work, independence in decision-making, preference for career choice factors and conceptions of the choice process. (Crites, 1973) Ideally, the high school experience should contribute to the student's development of career maturity.

(5) Self Concept. Self concept refers to an individual's perception of himself, and in this study it will be measured by the fifteen subscales of the Tennessee Self Concept Scale.

(6) Academic Achievement. In this study, academic achievement refers specifically to the overall grade average taken from the student's cumulative record, including grades nine through twelve.

(7) Career Maturity Inventory - Attitude Scale. This instrument surveys the various attitudes which are important in making career decisions, specifically asking the student about feelings and attitudes which he or she has toward entering the world of work and choice of a career.

(8) Tennessee Self Concept Scale (Counseling Form). This instrument measures how the student perceives himself, and specifically includes ability for self-criticism and level of self-esteem.

CHAPTER II

REVIEW OF RELATED LITERATURE

The purpose of this chapter is to present a review of pertinent research and literature related to the variables and programs encompassed by this study. This review is divided into three major sections: (1) Literature concerning career maturity, (2) Literature concerning self concept, and (3) Literature concerning academic achievement.

Literature Concerning Career Maturity

Crites (1973), writing in the Career Maturity Inventory Theory and Research Handbook presented a logical and orderly discussion of how a developmental concept of vocational maturity has evolved during the last two or three decades. Early views characterized vocational decision-making as a time-bound, largely static event which occurred at the crossroads of life, usually upon high school graduation, when an adolescent took stock of himself or herself and the world of work and decided what he or she was going to do. This concept was institutionalized and perpetuated by the construction of a host of trait-and-factor measures (aptitudes, interests, and personality characteristics) designed to facilitate the process of matching men with jobs. (Crites, 1968) Doubtless the vocational counseling given students during the previous two decades followed this theory closely and caused many young people needless anxiety and numerous incorrect choices of college majors and occupations.

However, during the fifties some theorists began to see the shortcomings of this system. Ginzberg, Ginsburg, Axelrad and Herma (1951) were among the first to conceptualize occupational choice as a process, not simply a one-time event. Super, cited in Crites (1973), added to this theory and was the first to apply the term 'career maturity' to the ". . .place reached on the continuum of vocational development from exploration to decline." (p. 5)

Crites (1973) stated that the central proposition of contemporary career development theory is that vocational behavior matures for most individuals as they progress from late childhood through adolescence to early adulthood. Thus, a marked transition has taken place, from a concept of static choice to one of a developmental process. He further stated that ". . .implicit in the concept of career development is the assumption that vocational behaviors mature over time in a systematic fashion." (Crites, 1973, p. 5) Ginzberg, Ginsburg, Axelrad and Herma (1951) believe that this process is largely irreversible. Super and Overstreet (1960) state that it is characterized by increasing goal-directedness, independence and realism. "In other words, vocational behaviors need not mature uniformly during any given life stage, e.g., adolescence; they may develop in spurts and starts, but, consistent with a progressive concept of career development, they should not reverse themselves." (Crites, 1973, p. 5)

In 1967, Crites and Semler conducted a cross-sectional and longitudinal study, designed to collect data on the variables of adjustment, educational achievement and vocational maturity as dimensions of development in adolescence. They used 483 fifth graders who were followed up seven years later as twelfth graders and found that ". . .these

variables constitute distinct, yet interrelated dimensions of development in adolescence, and further that the adjustment dimension clearly spans the years between the fifth and twelfth grades, earlier status being predictive of later, and is related to both educational development and vocational maturity in the senior year of high school." (Crites and Semler, 1967, p. 494) There is a tendency for personal and social adjustment to be positively associated with the maturity of vocational attitudes, thus, the better adjusted adolescent is more educationally advanced as well as more vocationally mature.

Walsh and Osipow (1973) conducted a study of career preferences, self-concept and vocational maturity at Ohio State University which explored the differences in self concept and vocational maturity variables between freshmen students who made congruent, incongruent, and undecided college major choices. A congruent college major choice is one that is consistent with the individual's primary personality type as operationally defined by the Vocational Preference Inventory. An incongruent college major choice is one that is not consistent with the primary personality type of the student. Students reporting no college major choice were classified as undecided. Four instruments were administered in the study: (1) the Vocational Preference Inventory; (2) the Career Questionnaire, Form IV; (3) the Vocational Development Inventory; and (4) the Tennessee Self Concept Scale. This study found that congruent males and females tend to report more specificity in occupational planning and implementation of preferences through major field choice than the other groups, particularly the undecided male and female groups, that the congruent groups tend to report more knowledge and application of decision-making skills

and awareness of occupational information, that the congruent groups seem to be more able to cope with the vocational and the educational world in an organized way, and have more crystallized educational objectives, and that the congruent groups seem to be more committed to the educational environment and the educational process.

Hodge (1968) utilized the Stuart Attitudes Toward Office Employment Scale with students in cooperative and non-cooperative office education programs, and found that while there was no significant difference in the attitudes of the two groups, both exhibited favorable attitudes toward office employment.

Pitko (1971) examined the interaction effects of office education programs, community size and teacher attitudes on the attitudes held by high school office education students toward office employment, as measured by the Stuart Attitudes Toward Office Employment Scale. Analysis of the data revealed that no significant differences in attitudes expressed by any of the groups existed when the mean scores of the office education students were compared in all possible combinations. The study did show, however, that students were uncertain about the effects of automation, fringe benefits, and some co-worker relationships, which indicates that programs should provide for these knowledges.

Peace (1974) conducted a study to determine if self concept, intelligence quotient, high school grades and parental education were significant factors for vocational high school seniors and for non-vocational high school seniors in one of three career choice groups. The study utilized 527 subjects who responded to a questionnaire regarding level of parental education and career choice of the seniors, as well as the Tennessee

Self Concept Scale, and the Otis Quick Scoring Mental Ability Test. Grade point averages were taken from cumulative records. Data were analyzed by analysis of variance to determine if significant differences existed between mean scores of vocational seniors and non-vocational seniors within each of the career choice groups, and between males and females. Significant differences were found in self concept scores on Behavior in five of the nine comparisons, and Moral-Ethical Self scores differed significantly in two out of nine comparisons. Mean IQ scores differed significantly only one time, and mean parental attainment levels were significantly different two out of nine times. Mean grade point averages were significantly different only once out of nine comparisons. Seniors planning to attend college had self concept scores which were more similar than different in the vocational and non-vocational groups, however, the vocational group possessed more perception of their behavior and the manner in which they function than did the non-vocational seniors. Both groups which were college-bound had similar IQ scores, and similar parent educational levels. Male non-vocational seniors had significantly higher grade point averages than the male vocational seniors. In the group of seniors who planned to attend junior college, there was no significant difference between self concept scores between vocational and non-vocational, but non-vocational seniors had significantly higher IQ scores than the vocational seniors. Fathers of vocational seniors had more education than those in the non-vocational groups, and the same was true of the mothers of male vocational seniors. In the group planning to attend junior college, there was no significant difference in grade point averages. In the group which planned to work without further education,

the vocational seniors had a higher level of self esteem, were more prone to admit negative self concepts, possessed a higher level of identity, had a higher concept of behavior on the way they function, possessed a higher perceived moral worth and relationship to a Supreme Being, possessed a higher perceived value as family members, as well as a higher perceived sense of adequacy and worth in social interaction than did the non-vocational seniors. Female seniors in the vocational group scored higher in the areas of IQ scores, parental education scores, grade point averages and in the Total Conflict, Behavior and Social Self sections of self concept than did the female non-vocational seniors.

Rodgers (1975) conducted a study which examined work experience as a mediating variable in theories of occupational choice. He investigated the relationship between work experience and the vocational preferences, vocational maturity and academic achievement of 245 seniors, measuring vocational preference with the Vocational Preference Inventory, vocational maturity with the Career Development Inventory, and academic achievement by cumulative grade point averages and class rank. Work experience variables were derived from a questionnaire developed for the study. He found that cumulative work experience and job satisfaction were significantly correlated with vocational preference, vocational maturity, and academic achievement. The subjects who had worked in satisfying jobs indicated a broader range of preferences in occupations, and they reflected stronger planning information, better use of resources and information for vocational exploration and higher overall vocational maturity on the Career Development Inventory. These students also possessed significantly higher grade point averages. More attention should be given to this area

of vocational education, developing and validating both qualitative and quantitative measures of adolescents' work experience to identify specific characteristics of work experience which may facilitate vocational development during adolescence.

Federal Labor Laws restrict the employment of young people under age sixteen. Coogan (1975) conducted a study to assess the value of cooperative work experience programs for disadvantaged fourteen and fifteen year-old students who were enrolled in the Work Experience Career Exploration Program in 1971-72 in the state of New Jersey. Using an experimental group and a control group, the Career Maturity Inventory was administered to measure the influence of the work program upon the lives of the experimental group (WECEP) as compared to the control group, who did not participate in the program. Differences between means were examined by using a t test. The findings indicated that the experimental group scored statistically higher than the control group on the Career Maturity Inventory, specifically on the Attitude Scale and three parts of the Competence Test (Knowing Yourself, Knowing About Jobs, and Choosing A Job). The subjects with work experience appeared to know themselves better, to possess better occupational information, and revealed greater ability to select career goals for themselves. Since these findings involved fourteen and fifteen year-old students, further efforts should be made to investigate the feasibility of providing supervised work experience for adolescents who do not meet the minimum age set by the federal government for employment.

Crosby (1974) used the Career Development Inventory to measure vocational maturity, and examined the effect of several variables upon

the scores of 312 Kentucky high school juniors enrolled in full-time Trade and Industrial programs. Several standard instruments and special instruments were used to measure the student variables of age, social class, rural-urban location, achievement, success in a trade and industrial program, verbal aptitude, mental maturity, geographical area of Kentucky, and trade and industrial enrollment. Employing both Pearson product moment correlation and one-way analysis of variance, he found that subjects with high levels of mental maturity tended to be more vocationally mature, to plan more for a career, had gained more occupational information, and were better able to make valid career decisions. Those who possessed high verbal aptitudes tended to have high levels of vocational maturity, and urban juniors were more vocationally mature than rural juniors. Achievement had more significant correlation coefficients than any other variable when correlated with vocational maturity. Variables not significantly related were cultural influence (area), social class, and enrollment in a specific vocational program.

New (1974) analyzed the relationship of enrollment and non-enrollment in home economics classes to the self concept and career maturity of senior high school students. The sample was made up of 384 seniors drawn randomly from 24 classes in eight high schools in Colorado in 1973-74, and included three groups: (1) students enrolled in occupational home economics courses, (2) students enrolled in consumer and homemaking courses, and (3) students not enrolled in home economics courses. The Career Maturity Inventory (Attitude Scale and Competence Test) was used to measure career maturity, and the Waetjen Self-Concept As A Learning Scale was used to measure self concept. A Career

Development Questionnaire was also administered. Prior to data analysis the groups were equated by means of one-way analysis of variance on the variables of ability, socioeconomic class, work experience, and previous enrollment in home economics courses. Data were analyzed by one-way analysis of variance, which showed a significant difference among the groups on career choice competence of goal selection scores, but a Scheffe' test of multiple comparisons revealed that no comparisons were significant on the goal selection variable. One-way analysis of variance applied to the self concept components of motivation and problem solving scores showed the students in the occupational home economics group to have less positive self concepts than the other two groups. However, other analyses of self concept indicated that there were no statistically significant differences among students in the three groups. Subjects in the three groups were found to be significantly different on ability, previous enrollment in home economics courses, and first and second part-time work experiences, however, they were similar on socioeconomic status, full-time work experience, number of months spent on the work experiences, and hours spent on current job. Ability was positively correlated with career maturity and self concept. Higher achieving students evidenced more mature career choice attitudes and competencies and more positive self concepts than lower achieving students.

Cicchetti (1974) undertook the task of determining whether a vocational education training program for disadvantaged youth at the ninth-grade level would promote career maturity and of comparing the effectiveness of vocational exploratory activities versus vocational skills training activities on the promotion of career maturity. Utilizing two

experimental and two control groups made up of 23 subjects each in School A and 24 subjects each in School B, the Career Maturity Inventory-Attitude Scale was administered as a pretest and a posttest and he found no significant difference between the two groups taught by means of vocational skills training activities (School A), and no significant difference between the groups taught by means of vocational exploratory experiences (School B). When the career maturity posttest scores for the treatment groups for School A and School B were compared, no significant difference was observed. The correlation coefficients of the career maturity pretest scores with achievement scores for both treatment and control groups in School A and School B showed a consistent and significant linear relationship between the career maturity pretest scores and the reading achievement scores.

Franklin (1975) conducted a study of the career maturity of junior high school students in grades seven through nine, employing the Career Maturity Inventory - Attitude Scale and Competence Test. Randomly selecting a group of 500 junior high students from intact classes and also randomly selecting a group of 25 twelfth grade vocational students for use as a criterion group, he found that there were significant differences in the career maturity of junior high school students as a function of age, sex, grade level, race, intelligence, and final cumulative grade average, but there were no significant differences as a function of socioeconomic status. It was also revealed that the twelfth grade vocational criterion group had overall mean scores significantly greater than the 500 junior high students' scores, indicating that growth in career maturity takes place from junior high

school to senior high school.

Summary

The literature and research concerning career maturity is somewhat limited when compared to other areas of education. It is a relatively new subject in educational circles, generating much interest within the last few years and more researchers are now concerning themselves with the topic. Much of the attention of late was no doubt influenced by the great amounts of federal funds directed toward the purpose of career education programs throughout the United States.

Research to date seems to indicate that career maturity is a developmental process which closely parallels the stages of physical and mental maturation from late childhood to early adulthood, and is affected by factors such as age, sex, race, intelligence, self concept, type of school curriculum or program, parental education, academic achievement, location (urban or rural), grade level, personal and social adjustment, personality type, and the availability of occupational information. Further research will no doubt clarify exactly which of these variables has the most influence on career maturity.

Literature Concerning Self Concept

Fitts (1965) indicated that the ". . .individual's concept of himself has been demonstrated to be highly influential in much of his behavior and also to be directly related to his general personality and state of mental health. Those who see themselves as undesirable, worthless or bad, tend to act accordingly. Thus, a knowledge of how an individual perceives himself is useful in attempting to help that individual, or in making evaluations of him." (p. 1) Super (1951)

advocates that in choosing an occupation, one is, in effect, choosing a means of implementing his self concept, and that this concept is central to career development theory. Resnick, Fauble and Osipow (1970) found that a relationship exists between certainty of vocational choice and the level of an individual's self esteem in both male and female students.

Pietrofesa (1969) defined self concept as ". . .a composite of numerous self-percepts, . . .an hypothetical construct, encompassing all of the values, attitudes, and beliefs toward one's self in relation to the environment." (p. 37) He advocated that self concept influences the student's view of the school and his academic achievement. Lowther, as cited by Pietrofesa (1969), found that the youngster with high self-esteem has better school success and achievement experiences than the child with low self-esteem. Self concept is a dominant factor in the personal-social adjustment of the child within the school, and it is also an important factor in career development. Vocational self concepts are significantly related to achievement in high school. (O'Hara, 1966)

Mansfield (1973) tested the theory that self-esteem acts as a moderating variable in the occupational choice process, and found that the theory was not supported when the relationships between self-esteem, self-perceived abilities and abilities perceived as required in occupations were examined. He found instead that the data were consistent with the self-implementation theory of vocational choice. It was found that those with high self-esteem were more likely than those with low self-esteem to see themselves as possessing the abilities they saw as necessary in their chosen occupations.

Maier (1974) conducted a study designed to investigate the relationship of levels of vocational decidedness (undecided, tentatively decided, and decided) and the satisfaction or dissatisfaction of one's level of vocational decidedness with dogmatism (as measured by the Rokeach Dogmatism Scale) and self-esteem (as measured by the Tennessee Self Concept Scale), using 141 freshmen students enrolled in introductory English literature classes. A questionnaire was employed to gather personal, educational and vocational data. From this data, each subject's level of vocational decidedness and level of satisfaction was determined. Multivariate analysis of variance was used on the independent variables of decisiveness (three levels) and satisfaction (two levels), and the dependent variables of dogmatism and self-esteem, producing three overall F ratios, one each for the main effects of decidedness and satisfaction, and one for the interaction effects. Only the factor of decidedness produced results which were significant. Both dogmatism and self esteem evidenced significant F ratios, which under further analysis revealed that significant differences existed between the tentatively decided and undecided groups, and between the decided and undecided groups on the variable of dogmatism, while significant differences were observed between the decided and undecided groups on the variable of self esteem. These findings indicate that increased vocational indecision is accompanied by increased dogmatism and decreased self esteem. A negative correlation of -.34 at the .05 level of significance was found between dogmatism and self esteem. Ultimately this study revealed that the undecided student is more dogmatic and has a lower level of self esteem than the decided student.

Harris (1960) mentioned ambition, emotional security, a sense of responsibility, cooperativeness, and seriousness as important factors for academic success. Caplin (1967) advocated that self concept must be stressed along with these factors. He hypothesized that both white and Negro children attending a de facto segregated school have less positive self concepts than do children attending desegregated schools, and that there is a significant positive relationship between self concept and academic achievement. His data supported both of these hypotheses, obtaining correlations between the composite standard scores on the Iowa Test of Basic Skills and the self concept scores (from an instrument developed by the author at the Horace-Mann-Lincoln Institute of School Experimentation, Teachers College, Columbia University) of $r = .52$, for personal-social qualities, $r = .45$, and for school-related items the correlation was $r = .58$, with all three being significant beyond the .001 level.

Marx and Winne (1974) reported two roles of schools consistently receiving support: helping all students to acquire basic skills such as reading and arithmetic competency, and enhancing each individual child's self-image and ability to interact fruitfully with his or her society. Conceding the importance of both, it becomes necessary for vocational educators to examine the latter role more closely than before, recognizing that the self concept must be dealt with as a part of career development and academic achievement.

Summary

From the research reviewed on the subject of self concept as it relates to career maturity and academic achievement, it is apparent

that students can benefit from the efforts of educators and parents to provide programs in the schools which will foster the development of a positive self concept. It has been shown that the self concept or level of self-esteem is directly related to the ability of a child to succeed academically and to make a satisfying vocational choice early enough to benefit from public school programs. Further research is indicated in this area.

Literature Concerning Academic Achievement

Utilizing the Descriptive Survey Method (Questionnaire Technique), Bauman (1975) investigated factors related to the career choices of business education students. Data were obtained through the administration of a multiple choice interview schedule to a stratified random sample of 384 business and office students in grades nine through twelve attending six public and private secondary schools in order to determine the influence of selected factors on career choice, to identify persons who influence student career choice, and to determine if achievers were more likely to make a career decision than low achievers. He found that a high statistical relationship existed between educational and occupational aspirations, with the aspired educational levels generally higher than the occupational levels, and that guidance counselors exerted more influence on student educational and occupational aspirations than teachers. It was also determined that vocational choices of students are influenced by the availability of pertinent career information in the high school, and that the vocational choice of students is significantly related to high school academic records and the students' leadership ability.

Achievers were more likely to make a career decision than low achievers. Although mothers had a higher level of education than fathers, the fathers had a higher occupational prestige level than the mothers, yet mothers had a more important influence on children in educational and occupational decisions. It was revealed that the socioeconomic status of parents influenced their children's career choice, and that parents have more influence on the education and career choices of their children than peer groups, teachers, or other groups. The students indicated that personal interests and satisfaction are most important factors in making occupational choices. School personnel who ranked highest in influencing student career choices were guidance counselors and business education teachers. Finally, students make more educational choices than occupational choices, with 93 percent certain of their educational aspirations, compared to 83.1 percent who were certain of their occupational aspirations.

Sanders (1967) had as his purpose to analyze and compare cooperative occupational education and vocational-technical school graduates and programs, and to obtain opinions toward the programs from graduates, parents, cooperating employers and current employers. Obtaining data from State Department of Education records and personnel, records in the files of four high schools and the Vocational-Technical School in Springfield, Missouri, in addition to forms sent to graduates and their parents and cooperating employers and current employers, he found that there were no significant differences between graduates of the two programs with respect to intelligence, percentile rank, scholastic rank and grade point average. Other relevant findings of the study include:

(1) Cooperative occupational education programs provide training in a greater number of occupational than vocational-technical school programs, with 80 percent of these in four occupational fields; (2) More than 60 percent of both groups of graduates continued their training and education beyond high school, with 28 percent attending four year colleges; (3) A larger percentage of vocational-technical school graduates than cooperative occupational education graduates obtained post-high school education or training in occupations that were related to their high school training; and (4) Cooperative occupational education graduates were rated higher by current employers on personal characteristics, work habits and overall competencies than were vocational-technical school graduates. He concluded that the transition from school to full-time employment is made more easily and quickly through some type of on-the-job training program.

Bledsoe (1968) sought to determine if there was a difference in the educational development of Diversified Cooperative Education students as opposed to students who had not participated in such a program, thereby determining if the Diversified Cooperative Education experiences, by their nature and scope, afforded the students opportunities for general educational development comparable to that attained by their peers in a regular or non-cooperative vocational curriculum. Using 95 DCE students and 95 NDCE students who were matched within school and graduating class according to sex, age, achievement as measured by the Iowa Tests of Educational Development, and attendance during the school year this pretest was administered, then posttest administration of the ITED, the analysis of covariance for a single variable was employed

on the Composite Scores of Tests 1-8, with pretest scores serving as independent variables and posttest scores as dependent variables. No significant differences were found between the educational development of the DCE students and the NDCE students in the total sample, in the female groups, in the male groups, within each of the cooperating schools represented in random Samples A and B, with one exception, that being Sample A, Test 2, Background in Natural Sciences and this difference was attributed to sampling error. Thus, he concluded that the general educational development of Diversified Cooperative Education students is not impeded through participation in the program, and that there was something inherent in the DCE experience which compensated for the lack of exposure to certain general education courses.

In a similar study, Wilkinson (1972) compared the academic achievement level between cooperative education students and non-cooperative education students, using percentile scores made on the Florida Statewide Twelfth Grade Testing Program. The experimental group consisted of 453 students who were enrolled in the Diversified Cooperative Training, Distributive Education, and Cooperative Business Programs in Polk county, Florida in 1970 who participated in the FSTGTP, and the control group consisted of 2,422 students in the same county who participated in the FSTGTP. One-way analysis of variance was used to determine if there were any significant differences between the groups, between the non-white, white (race), male and female (sex), and IQ (High, Medium and Low) scores of the students in each of the groups. Initially, significant differences in the programs were evident, with the Cooperative Education group having lower mean scores than the Non-Cooperative Education

group in all except the low IQ scores, but when a complete four-factor analysis was made, including all variables and their interactions, no significant differences were found between Cooperative and Non-Cooperative Education programs on mean percentile scores made on the FSTGTP, when the effects of Sex, Race and IQ were accounted for. No significant differences were observed between male and female students in the Cooperative and Non-Cooperative Education programs on mean percentile scores from the FSTGTP, and no significant differences in interactions were noted except that of Program X Race X IQ. There were significant differences between levels of IQ and Race. He concluded that the academic achievement of Cooperative Education students was not impeded by participation in this program.

Neswick's (1971) study has as its purpose to determine whether college preparatory programs and vocational cooperative programs were equally effective in influencing performance on first year college grade point averages, and if the best predictor variables of these were similar for both groups. He found no significant difference in the grade point averages of the two groups, but there was a significant difference in the profiles of predictors of college first year grade point averages which were compiled from the students' cumulative records and other personnel records. These findings, that the best predictors of college achievement for graduates of college preparatory programs are not the best predictors of college achievement for the graduates of the vocational cooperative program, should be of practical interest to counselors and college administration officers.

Summary

Educators who have been skeptical of the contribution made by vocational programs in high schools to the overall achievement of students who participate in such programs may now find ample research to alleviate their fears. Research reviewed seems to indicate that those students who participate in vocational programs evidence academic ability comparable to non-vocational students and that vocational students have been observed to possess better ability to perceive their behavior and the manner in which they function, while other facets of self concept have been comparable between the two groups. On-going research should further substantiate these observations and ultimately dispell the notion that vocational students are inferior to non-vocational students.

CHAPTER III

METHODS AND PROCEDURES

The purpose of this study was to compare female students who are trained in Cooperative Vocational Office Training (CVOT), Intensive Business Training (IBT), and Regular Business Education (Regular) programs with reference to the criteria of career maturity, self concept and academic achievement.

Selection of the Sample

The sample for this study was chosen from selected public schools in the state of Mississippi representing all geographic areas. Six schools were selected which offered all three of the programs being examined within one facility or school district. At each school, all female students who were enrolled in the Cooperative Vocational Office Training program and the Intensive Business Training program were included in the initial sample. Twenty female students from the Regular Business Education program were selected on the basis of the following criteria: (1) had completed Typewriting I; (2) were currently enrolled in Shorthand, Bookkeeping or Office Practice; and (3) were juniors or seniors.

The groups were equated on the basis of IQ scores obtained from cumulative records prior to data analysis, utilizing three ranges of IQ: Above Average - 110 and over; Average - 90-109; and Below Average - 89 and under. Following this process, a total of 240 participants were subjected to data analysis, with N = 80 in each group as illustrated

in Table 1. One-way analysis of variance on the IQ scores revealed no significant difference existed among the three groups. A comparison of means is shown in Table 1.

Description of Instruments

Subjects in the three programs being examined were administered the following tests during the month of April, 1976, thus allowing for maximum exposure to each program, since the subjects were enrolled at the beginning of the school year in 1975:

(1) Career Maturity Inventory - Attitude Scale. This instrument was developed by Crites for the purpose of assessing attitudes toward careers. It consists of fifty attitudinal statements which include the following five dimensions: involvement in the choice process, orientation toward work, independence in decision-making, preference for career choice factors, and conceptions of the choice process.

According to Crites (1973) reliability data for this instrument is as follows:

Internal Consistency. Using the Kuder-Richardson Formula 20, internal consistency estimates from Grades 6-12 (N = 1,648) revealed a mean of .74, which is comparable to other attitudinal instruments, and consistent with the theoretical explanation.

Stability. Test-retest reliability should be low enough to allow for maturational variance, but high enough to establish systematic measurement of the variable being quantified, and an r = .71 of 1,648 subjects tested and retested over a one year interval seems to be satisfactory.

Table 1

Comparison of Mean IQ Scores

for Groups

Group		$\bar{X}$	S. D.	F
IBT	(N=80)	99.90	12.30	.904
CVOT	(N=80)	102.35	11.63	
Regular	(N=80)	102.21	14.73	
Total	(N=240)			

*$F \geq 3.00$ Significant at .05 level (df = 2 and 237)

**$F \geq 4.61$ Significant at .01 level (df = 2 and 237)

Validity of the instrument was established as follows:

Content Validity. Content validity was established both theoretically and empirically. Using 1,000 items derived from central concepts in career development theory (Underwood, 1957), and then given conceptual definitions, followed by relevant instances of verbal vocational behavior, Flanagan's (1951) procedure for initial standardization was used to select 100 items which were considered to be theoretically relevant.

Empirically, content validity was established by asking ten expert judges (five female and five male counseling psychologists) to indicate their opinion as to the most mature response to the items on the attitude scale. Crites indicated that 74 percent agreement is quite substantive.

Criterion-Related Validity. Both significant and insignificant relationships have been found between the Attitude Scale and other instruments. They may be summarized as follows:

1. Occupational Aspiration Scale. A measure of realism of inspiration: Ninth graders (N = 79), r = .39; Twelfth graders (N = 58), r = .38 at the .01 level of significance. (Bathory, 1967)

2. Gribbon's and Lohnes' Readiness for Vocational Planning Scale. r = .38 at the .01 level of significance. (Cooter, 1966)

3. Super's Indices of Vocational Maturity. Correlation coefficients wer insignificant. (Wilstach, 1967)

Crites postulated that with larger N's and additional comparisons, criterion-referenced validity will become stronger.

2. Tennessee Self Concept Scale (Counseling Form). This instrument was developed by Fitts (1965) and was utilized to obtain an estimate of the overall self-esteem of the students in the three programs being examined. Bentler (1972) indicates that the test-retest is in the

high .80's for the fifteen scores of the Tennessee Self Concept Scale. Specifically, the reliability coefficients are as follows:

1. The Self Criticism Score. r = .75 (A high score on this subscale indicates a normal capacity for self-criticism.)

2. Nine Self-Esteem Scores:

(a) The Total Positive Score. r = .92 (This score indicates the overall level of the subject's self-esteem.)

(b) Identity. r = 91 (What a person believes he or she is.)

(c) Self Satisfaction. r = .88 (How the person feels about the self he or she sees.)

(d) Behavior. r = .88 (A person's perception of how he or she acts.)

(e) Physical Self. r = .87 (Subject's attitudes toward the body, physical skills, sexuality, health and appearance.)

(f) Moral-Ethical Self. r = .80 (A person's perception of his or her "goodness or badness".)

(g) Personal Self. r = .85 (A person's sense of personal worth separate form the physical or social self.)

(h) Family Self. r = .89 (A person's feeling of worth as a member of the family.)

(i) Social Self. r = .90 (A person's perception of his or her interactions with others.

3. Variability Scores. Total variability score, r = .67; Column variability score, r = .73; and Row total variability score, r = .60. (These scores are indications of the degree of variability among scores.)

4. Distribution Score. r = .89 (The consistency with which a person views himself or herself, summarized as distributions across the five choices of scores.)

5. True-False Ratio. r = .82 (A person's tendency to lean in the direction of agreeing or disagreeing regardless of the content of the item.) (Fitts, 1965)

Although Bentler agreed that test-retest reliability in the high .80's is sufficiently large to warrant confidence in individual difference measurement, he questions the lack of information available on internal consistency. He conceded that the internal consistency coefficients should be quite high when computed, however. No factor analysis has been undertaken, and Bentler believed that such an analysis would indicate that only two or three factors would emerge, rather than the twenty which are cited.

Swinn (1972) indicated that the scores seem to have content validity, but little work has been directed toward empirical validation of the individual scores.

Procedure for Collection of Data

After the subjects were selected in the six participating schools as previously described, data was gathered using the following methods:

1. Administration of the Career Maturity Inventory - Attitude Scale to subjects in Cooperative Vocational Office Training, Intensive Business Training and Regular Business Education programs.

2. Administration of the Tennessee Self Concept Scale to the subjects in the three programs.

3. Information collected from subject's cumulative records:

(a) IQ score

(b) Overall grade average from grades 9-12.

The two tests were administered by the researcher during the month of April, 1976, with uniform procedures and instructions for each group.

Analysis of Data

Data gathered in the study were transferred to recording sheets provided by the Computer Center at Mississippi State University, after the instruments were hand scored by the researcher. Raw scores from the Career Maturity Inventory - Attitude Scale, the Tennessee Self Concept Scale, and subjects' overall academic grade averages, which were taken from cumulative records, were used in the analysis. The three groups were equated on the basis of IQ scores, also taken from cumulative records prior to data analysis.

The data collected were punched on cards for computer processing. One-way analysis of variance was then used to process the data, as described by Dayton (1970). The Duncan's Multiple Range Test was used to distinguish between significant means.

CHAPTER IV

ANALYSIS OF DATA

Introduction

This study compared the career maturity, self concept and academic achievement of female students enrolled in Cooperative Vocational Office Training, Intensive Business Training and Regular Business Education programs in six high schools in the state of Mississippi. Career maturity was measured by the Career Maturity Inventory - Attitude Scale, and self concept was measured by the Tennessee Self Concept Scale. Overall grade averages were taken from students' cumulative records. Prior to data analysis, subjects in the three groups were equated on the basis of IQ. One-way analysis of variance was used to determine whether significant differences existed among the three groups on the variables of career maturity, self concept and academic achievement. The Duncan's Multiple Range test was utilized to identify means which were significant. The null hypotheses were rejected or not rejected at the .05 level of significance.

Evaluation of Hypotheses

Hypothesis 1. The first hypothesis stated that there will be no significant difference among the means for the three groups on the variable of career maturity as measured by the Career Maturity Inventory - Attitude Scale. Data in Table 2 indicated an F value of 4.81, which was significant at the .01 level. Therefore, the null hypothesis was rejected.

Table 2

Comparison of Mean Scores

on the Career Maturity Inventory - Attitude Scale

for All Groups

Group		Mean	S. D.	F
IBT	(N=80)	36.53	3.64	4.81**
CVOT	(N=80)	37.26	4.74	
Regular	(N=80)	35.11	4.89	

*F $\geq$ 3.00 Significant at .05 level (df = 2 and 237)

**F $\geq$ 4.61 Significant at .01 level (df = 2 and 237)

Means and standard deviations were: Group 1 (IBT), Mean = 36.53, S. D. = 3.64; Group 2 (CVOT), Mean = 37.26, S. D. = 4.74; and Group 3, (Regular), Mean = 35.11, S. D. = 4.89. When the means were subjected to the Duncan's Multiple Range Test (Table 3) the Cooperative Vocational Office Training students (Group 2) were shown to have significantly higher levels of career maturity than the Regular Business Education students (Group 3). The means for Group 1 (IBT) and Group 3 (Regular) were not significantly different, nor was Group 2 (CVOT) significantly different from Group 1 (IBT). The means of the three groups are comparable to the national norms of 36.02 (eleventh grade) and 37.23 (twelfth grade) cited in the CMI Administration and Use Manual. (Crites, 1973)

Hypothesis 2. In the second hypothesis it was stated that there will be no significant difference among the means for the three groups in overall self concept as measured by the Tennessee Self Concept Scale. Table 4 depicts the means, standard deviations and F values for the subscales of the TSCS (A and B, 1-9), which were utilized in the study. Overall self concept is represented by the Total Positive score (Subscale B-1). The analysis of variance revealed an F value of 4.775 on this subscale, which was significant at the .01 level. Therefore the null hypothesis was rejected. Means and standard deviations on Subscale B-1 were: Group 1 (IBT), Mean = 328.04, S. D. = 34.96; Group 2 (CVOT), Mean = 343.19, S. D. = 28.14; and Group 3, Mean = 335.85, S. D. = 29.52. The results of the Duncan's Multiple Range Test, as shown on Table 5, indicated that Group 2 (CVOT) demonstrated significantly higher levels of self concept or self esteem than Group 1 (IBT). Group 2 (CVOT) and Group 3 (Regular) were not significantly different on this variable,

Table 3

Results of Duncan's Multiple Range Test

for Comparing Means for All Groups

on Scores from the Career Maturity Inventory - Attitude Scale

Criterion	Ranked Means for Groups	Decision
Career Maturity	2 = 37.26	$G_2 > G_3$; $G_1 = G_3$; $G_2 = G_1$**
	1 = 36.53	
	3 = 35.11	

*F $\geq$ 3.00 Significant at .05 level

**F $\geq$ 4.61 Significant at .01 level

Table 4

Comparison of Mean Scores on the
Tennessee Self Concept Scale - Subscales A and B (1-9) for All Groups

TSCS Subscales	Group 1 IBT - (N=80) Mean	S. D.	Group 2 CVOT - (N=80) Mean	S. D.	Group 3 Regular - (N=80) Mean	S. D.	F
A Self Criticism	34.68	5.90	34.33	5.45	36.16	6.72	2.09
B-1 Total Positive	328.04	34.96	343.19	28.14	335.85	29.52	4.775**
B-2 Identity	125.95	9.01	129.09	9.87	128.91	8.52	3.00 *
B-3 Self Satisfaction	95.96	15.35	101.91	12.98	97.51	14.09	3.80 *
B-4 Behavior	107.20	13.86	112.11	10.42	109.43	12.20	3.23 *
B-5 Physical Self	67.86	6.90	68.90	7.02	67.44	7.51	.89
B-6 Moral-Ethical Self	66.34	8.81	70.80	8.18	67.53	8.87	5.74 **
B-7 Personal Self	63.20	8.45	65.71	7.02	64.83	8.16	2.08
B-8 Family Self	64.86	9.25	69.15	8.75	67.95	7.36	5.43 **
B-9 Social Self	67.23	7.35	68.65	6.68	68.20	7.26	.84

*F $\geq$ 3.00 Significant at .05 level (df = 2 and 237)

**F $\geq$ 4.61 Significant at .01 level (df = 2 and 237)

Table 5

Results of Duncan's Multiple Range Test for Comparing Means for All Groups on the Tennessee Self Concept Scale - Subscales A and B (1-9)

Criterion: TSCS Subscales	Means Group 1 IBT	Group 2 CVOT	Group 3 Regular	Decision
A Self Criticism	34.68	34.33	36.16	$G_1 = G_2 = G_3$
B-1 Total Positive	328.04	343.19	335.85	$G_2 > G_1$; $G_2 = G_3$; $G_1 = G_3$ **
B-2 Identity	125.95	129.09	128.91	$G_2 > G_1$; $G_3 > G_1$; $G_2 = G_3$ *
B-3 Self Satisfaction	95.96	101.91	97.51	$G_2 > G_1$; $G_2 = G_3$; $G_1 = G_3$ *
B-4 Behavior	107.20	112.11	109.43	$G_2 > G_1$; $G_2 = G_3$; $G_1 = G_3$ *
B-5 Physical Self	67.86	68.90	67.44	$G_1 = G_2 = G_3$
B-6 Moral-Ethical Self	66.34	70.80	67.53	$G_2 > G_1$; $G_2 = G_3$; $G_1 = G_3$ **
B-7 Personal Self	63.20	65.71	64.83	$G_1 = G_2 = G_3$
B-8 Family Self	64.86	69.15	67.95	$G_2 > G_1$; $G_2 = G_3$; $G_1 = G_3$ **
B-9 Social Self	67.23	68.65	68.20	$G_1 = G_2 = G_3$

*F $\geq$ 3.00 Significant at .05 level

**F $\geq$ 4.61 Significant at .01 level

nor were any significant differences observed between Groups 1 and 3. The means of the three groups were slightly lower than the mean for the normed group cited by Fitts (1965) in the TSCS Manual, which was 345.57.

Further analysis of the subscales of the Tennessee Self Concept Scale revealed the following:

1. No significant differences were observed among the three groups on Subscale A - Self Criticism, with an F value of 2.09. Means and standard deviations for the groups on this subscale were: Group 1 (IBT), Mean = 34.68, S. D. = 5.90; Group 2 (CVOT), Mean = 34.33, S. D. = 5.45; and Group 3 (Regular), Mean = 36.16, S. D. 6.72. (Table 4)

2. Table 4 indicates an F value of 3.00, significant at the .05 level, for the groups on Subscale B-2 - Identity. Means and standard deviations on this subscale were: Group 1 (IBT), Mean = 125.95, S. D. = 9.01; Group 2 (CVOT), Mean = 129.09, S. D. = 9.87; and Group 3 (Regular), Mean = 128.91, S. D. = 8.52. When subjected to the Duncan's Multiple Range Test (Table 5), the means of Groups 2 (CVOT) and 3 (Regular) were found to be significantly higher than Group 1 (IBT), but not significantly different from each other.

3. Means on Subscale B-3 - Self Satisfaction revealed an F value of 3.80, which was significant at the .05 level. Specifically, the means and standard deviations on this subscale were: Group 1 (IBT), Mean = 95.96, S. D. = 15.35; Group 2 (CVOT), Mean = 101.91, S. D. = 12.98; and Group 3 (Regular), Mean = 97.51, S. D. = 14.09. Results of the Duncan's Multiple Range Test (Table 5) indicated that Group 2 (CVOT) had means which were significantly higher than Group 1 (IBT). There was

no significant difference between Group 2 (CVOT) and Group 3 (Regular) or between Group 1 (IBT) and Group 3 (Regular) on this subscale.

4. Data found on Table 4 indicated that on Subscale B-4 - Behavior, the F value found was 3.23, statistically significant at the .05 level. Means and standard deviations for the groups on this subscale were: Group 1 (IBT), Mean = 107.20, S. D. = 13.86; Group 2 (CVOT), Mean = 112.11, S. D. = 10.42; and Group 3 (Regular), Mean = 109.43, S. D. = 12.20. Table 5 gives the results of the Duncan's Multiple Range Test, indicating that the mean for Group 2 (CVOT) was significantly higher than Group 1 (IBT), but that Group 2 (CVOT) and Group 3 (Regular), as well as Group 1 (IBT) and Group 3 (Regular), were not significantly different.

5. Means for the groups on Subscale B-5 - Physical Self were not significantly different, with Table 4 showing an F value of .89. The means and standard deviations for the groups were: Group 1 (IBT), Mean = 67.86, S. D. = 6.90; Group 2 (CVOT), Mean = 68.90, S. D. = 7.02; and Group 3 (Regular), Mean = 67.44, S. D. = 7.51.

6. Table 4 indicated that the means for the groups on Subscale B-6 - Moral-Ethical Self were significantly different at the .01 level with an F value of 5.74. The means and standard deviations were: Group 1 (IBT), Mean = 66.34, S. D. 8.81; Group 2 (CVOT), Mean = 70.80, S. D. = 8.18; and Group 3 (Regular), Mean = 67.53, S. D. = 8.87. Results of the Duncan's Multiple Range Test on Table 5 indicate that at the .01 level of significance, Group 2 (CVOT) was significantly higher than Group 1 (IBT) but was not significantly different from Group 3 (Regular). However,

at the .05 level, Group 2 (CVOT) was significantly higher than both Groups 1 (IBT) and 3 (Regular), which is not shown on the table, since only the most stringent levels of significance are provided on Table 5. At both the .01 and .05 levels, Group 1 (IBT) was not significantly different from Group 3 (Regular) on this subscale.

7. Table 4 indicated that there was no significant difference among the groups on Subscale B-7 - Personal Self, with the F value being 2.08. Means and standard deviations for this subscale were: Group 1 (IBT), Mean = 63.20, S. D. = 8.45; Group 2 (CVOT), Mean = 65.71, S. D. = 7.02; and Group 3 (Regular), Mean = 64.83; S. D. = 8.16.

8. Means for the groups on Subscale B-8 - Family Self as shown on Table 4 were significantly different at the .01 level, with an F value of 5.43. The means and standard deviations were: Group 1, (IBT), Mean = 64.86, S. D. = 9.25; Group 2 (CVOT), Mean = 69.15, S. D. = 8.75; and Group 3 (Regular), Mean = 67.95, S. D. = 7.36. Results of the Duncan's Multiple Range Test (Table 5) indicated that at the .01 level Group 2 (CVOT) was significantly higher than Group 1 (IBT), that Groups 2 (CVOT) and 3 (Regular) and Groups 1 (IBT) and 3 (Regular) were not significantly different. However, at the .05 level, not shown on Table 5, Group 2 (CVOT) was significantly higher than Group 1 (IBT), Group 3 (Regular) was significantly higher than Group 1 (IBT), while Groups 2 (CVOT) and 3 (Regular) were not significantly different.

9. Table 4 indicated an F value of .84 which was not significant at the .05 level for Subscale B-9 - Social Self. Means and standard deviations were: Group 1 (IBT), Mean = 67.23, S. D. = 7.35;

Group 2 (CVOT), Mean = 68.65, S. D. = 6.68; and Group 3 (Regular), Mean = 68.20, S. D. = 7.26.

Hypothesis 3. The statement made in this hypothesis was that there will be no significant difference among the three groups when mean overall grade averages as reported in cumulative records are compared. The analysis of variance as reported in Table 6 revealed an F value of 3.32, significant at the .05 level, thus allowing rejection of this null hypothesis. Means and standard deviations were: Group 1 (IBT), Mean = 83.41, S. D. = 6.10; Group 2 (CVOT), Mean = 85.31, S. D. = 6.87; and Group 3 (Regular), Mean = 85.95, S. D. = 6.44. Table 7 reports the results of the Duncan's Multiple Range Test for this variable. Group 3 (Regular) was significantly higher than Group 1 (IBT), while Group 2 (CVOT) was not significantly different from Group 1 (IBT), nor was Group 3 (Regular) significantly different from Group 2 (CVOT).

Related Analyses and Findings

Further analysis of the data gathered in this study was undertaken which went beyond the major purpose, since significant differences were found among the students in the three programs being examined. These further findings were quite interesting in light of the variables which the study encompassed, and are reported here in order to add to available research in this field.

Data were subjected to one-way analysis of variance when all three of the groups were combined and then divided on the basis of grade level. Table 8 indicates the results of this analysis. When Grade 12 and Grade 11 students were compared on the basis of IQ scores, there was

Table 6

Comparison of Mean Overall Grade Averages

for All Groups

Group		Mean	S. D.	F
IBT	(N=80)	83.41	6.10	3.32*
CVOT	(N=80)	85.31	6.87	
Regular	(N=80)	85.95	6.44	

*$F \geq 3.00$ Significant at .05 level (df = 2 and 237)

**$F \geq 4.61$ Significant at .01 level (df = 2 and 237)

Table 7

Results of Duncan's Multiple Range Test

for Comparing Means for All Groups

on Overall Grade Averages

Criterion	Ranked Means for Groups	Decision
Overall Grade Averages	3 = 85.95	$G_3 > G_1$; $G_2 = G_1$; $G_3 = G_2$*
	2 = 85.31	
	1 = 83.41	

*$F \geq 3.00$ Significant at .05 level

**$F \geq 4.61$ Significant at .01 level

Table 8

Comparison of Mean Scores on All Variables by Grade Level

Variable	Grade 11 (N=100) Mean	S. D.	Grade 12 (N=140) Mean	S. D.	F
IQ	101.62	12.85	101.39	13.06	.018
Overall Grade Average	84.57	6.17	85.12	6.80	.414
Career Maturity	35.50	4.15	36.87	4.72	5.451*
TSCS-Self Criticism (A)	35.46	6.13	34.76	6.03	.765
TSCS-Total Positive (B-1)	327.88	31.16	341.27	30.64	10.985**
TSCS-Identity (B-2)	126.49	9.15	129.05	9.17	4.558*
TSCS-Self Satisfaction (B-3)	95.60	13.31	100.51	14.74	7.006**
TSCS-Behavior (B-4)	106.65	12.80	111.67	11.65	9.997**
TSCS-Physical Self (B-5)	66.91	6.95	68.89	7.20	4.558*
TSCS-Moral-Ethical Self (B-6)	66.27	7.70	69.61	9.28	8.704**
TSCS-Personal Self (B-7)	66.33	7.63	65.47	8.06	4.305*
TSCS-Family Self (B-8)	66.02	8.17	68.25	8.88	3.930*
TSCS-Social Self (B-9)	66.50	6.52	69.11	7.32	8.150**

*$F \geq 3.84$ Significant at .05 level (df = 1 and 238)
**$F \geq 6.63$ Significant at .01 level (df = 1 and 238)

no significant difference between the groups, with an F value of .018.

There was no significant difference between Grade 12 and Grade 11 students on the basis of overall grade average, with the F value being .414.

On the variable of career maturity as measured by the Career Maturity Inventory - Attitude Scale, Grade 12 students were significantly higher than Grade 11 students at the .05 level with an F value of 5.451.

Grade 12 students scored significantly higher than Grade 11 students on the variable of overall self concept, as measured by the Tennessee Self Concept Scale, with Subscale B-1 - Total Positive having an F value of 10.985, Subscale B-3 - Self Satisfaction having an F value of 7.006, Subscale B-4 - Behavior having an F value of 9.997, and Subscale B-6 - Moral-Ethical Self having an F value of 8.704, all of which were significant at the .01 level. Subscales of the TSCS which were significant at the .05 level were B-2 - Identity, with an F value of 4.558, B-5 - Physical Self, with an F value of 4.558, B-7 - Personal Self, with an F value of 4.305, and B-8 - Family Self, with an F value of 3.93, and in all these instances, Grade 12 students were significantly higher than Grade 11 students.

Subscale A - Self Criticism of the TSCS revealed no significant difference between Grade 12 students and Grade 11 students, with an F value of .765.

Since some of the research reviewed for this study found that the variables of IQ, grade average, career maturity and self concept bore some relationship to each other, a Pearson product moment correlation was run on the data. Table 9 depicts the correlation matrix indicating relationships of all variables when the total group (N = 240) was considered. Only those correlations which were significant at the .001 and .01 levels are indicated.

IQ correlated highly (r = .50, .001 level) with overall grade average, and with career maturity (r = .28, .001 level). Grade average correlated highly with career maturity (r = .28, .001 level).

Career maturity showed high correlations with all of the subscales of the Tennessee Self Concept Scale, except Subscale A - Self Criticism. Specifically of interest was Subscale B-1 - Total Positive score which correlated with career maturity at r = .31 at the .001 level.

The subscales of the Tennessee Self Concept Scale correlated highly with each other, all positively, except those correlations concerning Subscale A - Self Criticism, which were negative as expected.

Table 9

Correlation Matrix Indicating Relationships of All Variables When the Total Group of Subjects Was Considered

	IQ	Grade Average	Career Maturity	Tennessee Self Concept Scale (Subscales) B-1	A	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9
IQ	1.00	.50**	.28**	.02	.11	.05	.05	-.01	-.02	.03	.11	-.05	.07
Grade Average		1.00	.28**	.10	.18	.07	.09	.10	.003	.14	.11	.01	.12
Career Maturity			1.00	.31**	.005	.25**	.25**	.30**	.22**	.23**	.29**	.18*	.29**
TSCS-B-1				1.00	-.27**	.78**	.84**	.89**	.72**	.81**	.80**	.69**	.72**
TSCS-A					1.00	-.15*	-.27**	-.32**	-.19**	-.33**	-.34**	-.18*	-.16*
TSCS-B-2						1.00	.47**	.66**	.65**	.62**	.59**	.55**	.59**
TSCS-B-3							1.00	.62**	.56**	.73**	.75**	.65**	.60**
TSCS-B-4								1.00	.63**	.73**	.73**	.58**	.68**
TSCS-B-5									1.00	.45**	.49**	.32**	.54**
TSCS-B-6										1.00	.62**	.54**	.49**
TSCS-B-7											1.00	.50**	.56**
TSCS-B-8												1.00	.28**
TSCS-B-9													1.00

* Significant at .01

** Significant at .001

CHAPTER V

SUMMARY, DISCUSSION, IMPLICATIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to compare the career maturity, self concept and academic achievement of female students enrolled in Intensive Business Training, Cooperative Vocational Office Training, and Regular Business Education programs in six high schools in the state of Mississippi, selected to be geographically balanced.

The sample for the study consisted of 240 female subjects who participated in the three programs under examination during the 1975-76 academic year, and were equalized into three groups of 80 subjects each on the basis of IQ scores taken from students' cumulative records.

The variable of career maturity was measured by the Career Maturity Inventory - Attitude Scale (CMIA), self concept was measured by the Tennessee Self Concept Scale (TSCS), and overall grade averages were taken from students' permanent records (Grades 9-12). The instruments were administered at one sitting.

The statistical technique of one-way analysis of variance was employed to analyze the data, as well as the Duncan's Multiple Range Test. Further analysis beyond the three major hypotheses was undertaken, with the total group of subjects divided by grade level and by school and then subjected to one-way analysis of variance. All the

variables were also correlated. The .05 level of significance was used to indicate the rejection or failure to reject the null hypothesis.

The first part of this chapter is concerned with the findings of the study in terms of the stated hypotheses, and with the findings in the related analysis which was conducted.

Discussion

Hypothesis 1. The first hypothesis was concerned with significant differences among the three groups (IBT, CVOT, and Regular) on the variable of career maturity, based upon scores obtained from the Career Maturity Inventory - Attitude Scale. The analysis of variance resulted in an F value of 4.81, significant at the .01 level, thus allowing rejection of this null hypothesis. The CVOT students scored significantly higher than the Regular students. There was no significant difference between IBT and Regular, and there was no significant difference between CVOT and IBT.

A major factor which may account for the CVOT students evidencing a significantly higher level of career maturity is that a supervised job is a part of their program experience. Career information is presented in the IBT program of instruction and apparently provides these students with a level of career maturity comparable to the CVOT students, although the CVOT mean was greater. Also observable is the fact that the Regular students did not differ significantly from the IBT students. The means of the three groups were comparable to the means of the normed groups cited by Crites (1973).

Hypothesis 2. The second hypothesis examined significant differences among the three groups on the variable of overall self concept as measured by the Tennessee Self Concept Scale. The analysis of variance resulted in an F value of 4.775, significant at the .01 level on the Total Positive subscale of the TSCS. The CVOT students were significantly higher on overall self concept than the IBT students. Again, this may possibly be accounted for by the exposure to the public and the world of work which the CVOT students receive through their job experience, as opposed to the intensive in-class instruction used in the IBT program. The IBT students and the Regular students did not differ significantly on this variable, and the same was true when the Regular students were compared with the CVOT students. Also of interest is that the means of all three groups were slightly less than the mean for the normed group cited by Fitts (1965) on the Total Positive score.

Analysis of variance was also performed on the subscales of the TSCS, with the following results. Subscale A - Self Criticism revealed no significant differences among the groups. Subscale B-2 - Identity revealed an F value of 3.00, significant at the .05 level. The CVOT and Regular students were significantly higher than the IBT students on this variable, while the CVOT and Regular students did not differ significantly.

Subscale B-3 - Self Satisfaction resulted in an F value of 3.80, significant at the .05 level. On this variable, the CVOT students scored significantly higher than the IBT students, the Regular students were not significantly different from the CVOT students, and the IBT students were not significantly different from the Regular students.

Subscale B-4 - Behavior revealed a significant F value of 3.23 at the .05 level. The CVOT students were significantly higher than the IBT students. However, when the CVOT and Regular students, and the IBT and Regular students were compared, there was no significant difference.

Subscale B-5 - Physical Self failed to result in any significant differences among the groups. Since all the subjects were females of almost the same age, this finding is not surprising.

Subscale B-6 - Moral-Ethical Self produced an F value of 5.74, significant at the .01 level. The CVOT students scored significantly higher than the IBT students on this variable, while CVOT and Regular, as well as IBT and Regular students exhibited no significant differences at the .01 level. However, at the .05 level, the CVOT students were significantly higher than both the IBT and Regular students, and IBT students did not differ significantly from Regular students.

Subscale B-7 - Personal Self revealed no significant differences among the groups.

Subscale B-8 - Family Self resulted in an F value of 5.43, significant at the .01 level. The CVOT students scored significantly higher than the IBT students on this variable at this level of significance, while CVOT and Regular students and IBT and Regular students did not differ significantly. At the .05 level of significance, the results were that both CVOT and Regular students were significantly higher than IBT students, but not significantly different from each other.

Subscale B-9 - Social Self revealed no significant difference among the groups.

Interesting observations about the various subscales of the TSCS include the fact that the CVOT students scored significantly higher than the IBT students seven times out of ten, that CVOT students and Regular students were not significantly different six times out of ten, and that IBT students and Regular students were not significantly different six times out of ten. The differences between CVOT and IBT students again could possibly be attributed to the job experience. However, the similarity between the CVOT and Regular students, and the IBT and Regular students is puzzling. Perhaps this finding can be attributed to the fact that all three programs provide experiences which result in positive self concepts, all within one standard deviation of of the national norm mean.

Hypothesis 3. The third hypothesis examined significant differences among the three groups on the variable of overall grade averages from Grades 9-12. Analysis of variance resulted in an F value of 3.32, significant at the .05 level, thus facilitating rejection of this null hypothesis. The Regular students were found to be significantly higher than the IBT students, but not significantly different from the CVOT students. The CVOT students did not differ significantly from the IBT students on this variable. This variation in scores is possibly due to the fact that the intensive instruction method utilized in the IBT program permits the acceptance of students with slightly lower grade averages, whereas the CVOT program must satisfy employer standards and several courses in the Regular program are somewhat strenuous (Bookkeeping and Shorthand), and do not attract students with lower grade averages. Although the IQ scores of the three groups did not differ significantly statistically, the IBT mean was slightly lower than the other two means

but any observations on this point would be speculative.

Analysis by Grade Level. When the total group of 240 students was analyzed on the basis of grade level by means of analysis of variance, it was found that the Grade 12 students scored significantly higher than Grade 11 students on the variable of career maturity and self concept, with the exception of the Self Criticism subscale of the TSCS. Grade 12 students and Grade 11 students did not differ significantly on the variables of IQ, overall grade average, or Subscale A - Self Criticism of the TSCS. These findings could be reasonably expected due to the age difference of the groups.

Correlation of the Variables. When a correlation matrix was constructed indicating relationships of all variables when the total group of 240 students was considered, it was observed that IQ and overall grade average had a correlation of .50 at the .001 level of significance, IQ and career maturity had a correlation of .28 at the .001 level of significance, overall grade average and career maturity had a correlation of .28 at the .001 level of significance, and career maturity and overall self concept had a correlation of..31, significant at the .001 level. As expected, all subscales of the TSCS which were utilized in data analysis correlated highly with each other, as presented in Table 10.

Implications

Regarding the variable of career maturity, the Cooperative Vocational Office Training students evidenced higher levels than the Regular Business Education students, substantiating the findings of Rogers (1975) and Coogan (1975). These studies contended that work

experience students evidenced higher levels of occupational information and vocational or career maturity than students who had not worked. Studies by Franklin (1975), Crites and Semler (1967) and Crites (1973) advocated that career maturity is a progressive, developmental process which coincides with advances in age. It was found in this study that the twelfth grade students had higher career maturity than the eleventh grade students, seeming to reinforce the above-named studies to some extent. The high significant correlations found among the variables of career maturity, self concept, grade averages and intelligence seem to bear out Crites and Semler (1967), who believed that adjustment, educational achievement and vocational maturity are related dimensions of development in adolescence, and New (1974) who found ability positively correlated with career maturity and self concept.

The factor of the supervised job experience provided the CVOT students cannot be overlooked in analyzing the higher scores of this group on the variable of career maturity, as opposed to the Regular students. Since this study is a posttest design, it cannot be said that the work experience caused the difference, however.

All three of the groups included in the study had mean scores comparable to the national norms, indicative of the fact that all three programs prepare the participants well in the area of career maturity.

Cooperative Vocational Office Training students demonstrated significantly higher levels of overall self concept than Intensive Business Training students, but not significantly higher than the

Regular Business Education students. To a limited extent this substantiates Maier's (1974) findings that vocationally decided students have higher levels of self esteem than undecided students. Mean scores of the three groups on Subscale B-1 - Total Positive of the TSCS fell within one standard deviation of the mean of the national normed group. Although these means were slightly below the national norm mean, students in all three groups evidenced positive self concepts, speaking well of the programs.

On the variable of academic achievement, as measured by overall grade averages from the students' permanent records, the Regular Business Education students exhibited significantly higher means than the Intensive Business Training students, but not higher than the Cooperative Vocational Office Training students. This finding coincides with the results of studies by Bledsoe (1968), Wilkinson (1972), Neswick (1971), Bauman (1975), and Sanders (1967). Generally, these studies found that there was no difference academically between cooperative education students and non-cooperative education students, and that students with high achievement levels were more likely to make career decisions than low achievers. Hence Bledsoe (1968) concluded that there was something inherent in the cooperative program experience which makes up or adjusts for the general education courses missed by the students who participate in these programs. Sanders (1967) believed that this type of on-the-job training makes the transition to full-time employment both easier and quicker.

Recommendations

Based upon the findings of this study, the following recommendations seem advisable:

1. Further research should be conducted to seek to determine what factors within the Cooperative Vocational Office Training program enable its participants to perform as well as non-cooperative students academically.

2. Efforts should be made to substantiate the findings of this study in other areas of vocational education where the cooperative method is used.

3. Further research is needed in the area of the methods utilized in Intensive Business Training programs to try to determine the reasons for lower scores on several of the variables included in this study.

4. Further research should be undertaken in the area of career maturity, both to validate further and compare currently available instruments, and to assess the impact of the career education movement on all areas of education, vocational education, in particular.

5. Based upon the findings of this study, educators, as well as officials within the State Departments of Education, should take a closer look at the advantages of the cooperative method of education.

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